

What is claimed is:

1. An optical component having a waveguide groove, comprising:

a waveguide holding plane having a surface shape extending along a specific axial direction and capable of holding at least one optical waveguide while positioning said optical waveguide at at least a part of at least one side face of said waveguide holding plane; and

an opening portion extending substantially oppositely to said waveguide holding plane and being smaller in width than an outside diameter of at least said one optical waveguide in a specified widthwise direction perpendicular to said specified axial direction.

2. The optical component according to claim 1, wherein, in said waveguide groove, said waveguide holding plane has a half-cylindrical shape obtained by extending a circular arc 180° larger than a specific angle in a center angle in said specific axial direction perpendicular to the plane of the circular arc, and said opening portion extends between a pair of opposed peripheral end portions in a peripheral direction to the half-cylindrical waveguide holding plane.

3. The optical component according to claim 1 or claim 2, wherein said optical waveguide is provided with a filter having a specific characteristic, and the filter is fixed so as to be positioned by corresponding to said opening portion.

4. The optical component according to claim 3, wherein said filter has a specific angle of inclination to the optical axis of a propagation light propagating through said optical waveguide.

5. The optical component according to claim 3, wherein said filter is provided on the end face of the optical waveguide.

6. The optical component according to claim 1 or claim 2, wherein the sectional shape of at least a part of said waveguide groove is Ω -shaped.
7. The optical component according to any of claim 1, claim 2, and claim 6, wherein a plurality of said waveguides are provided.
8. The optical component according to any of claim 1, claim 2, claim 6, and claim 7, wherein said optical waveguide has at least a part of its side face engaged with said waveguide groove.
9. An optical module, comprising an optical component according to any of claim 1, claim 2, claim 6, and claim 8 and an optical device optically coupled with said optical component, wherein said optical component and said optical device are optically coupled through the opening portion of said optical component.
10. The optical module according to claim 9, wherein said optical component further comprises alignment means, and by the alignment means, said optical component is positioned.
11. An optical module, comprising:
the optical component according to any of claims 1 to claims 8;
a light source portion to output a signal light guided by said optical component; and
a spot size conversion portion to convert a spot size of the signal light outputted from said light source portion and couple it by a spot size adapted to the end portion of said at least one optical waveguide of said optical component.
12. The optical module according to claim 11, wherein said spot size conversion portion is formed by a planer light wave circuit mounted on a substrate.
13. The optical module according to claim 12, wherein the

substrate where said spot size conversion portion is formed and the substrate where said light source portion is formed are configured by separate entities, and can be independently positioned, respectively.

14. The optical module according to claim 13, wherein the substrate formed with said spot size and the substrate formed with said light source portion are formed with V grooves, respectively, and a holding member to hold said optical component is formed with a protrusion, and by engaging said each V groove with said protrusion, the positioning is made possible.